PM Conformity Hot Spot Analysis
Project Summary Form for Interagency Consultation

The purpose of this form is to provide sufficient information to allow the Transportation Conformity Working Group (TCWG) to determine if a project requires a project-level PM hot spot analysis pursuant to Federal Conformity Regulations.

The form is not required under the following circumstances:

1. The project sponsor determines that a project-level PM hot spot analysis is required or otherwise elects to perform the analysis; or
2. The project does not require a project-level PM hot spot analysis since it:
    a. Is exempt pursuant to 40 CFR 93.126; or
    b. Is a traffic signal synchronization project under 40 CFR 93.128; or
    c. Uses no Federal funds AND requires no Federal approval; or
    d. Is located in a Federal PM attainment area (note: PM10 and PM2.5 areas differ).

Projects other than those listed above may or may not need a project-level PM hot spot analysis depending on whether it is considered a "Project of Air Quality Concern" (POAQC), and should be brought before the TCWG for a determination.

It is the responsibility of the project sponsor to ensure that the form is filled out completely and provides a sufficient level of detail for the TCWG to make an informed decision on whether or not a project requires a project-level PM hot spot analysis. For example, the TCWG will be reviewing the effects of the project, and thus part of the required information includes build/no build traffic data. It is also the responsibility of the project sponsor to ensure a representative is available to discuss the project at the TCWG meeting if necessary.

Instructions:

1) Fill out form in its entirety. Enter information in gray input fields.

2) Be sure to include RTIP ID#. See http://scag.ca.gov/rtip/ if necessary.

3) Submit completed form to your local Transportation Commission who will submit it to the MPO. Caltrans projects can be submitted by Caltrans District representative.

The TCWG meets the fourth Tuesday of each month at SCAG Headquarters, 818 W. 7th Street, 12th Floor, Los Angeles, CA 90017. Participation is also available via teleconference. Call (213) 236-1800 prior to meeting to get the call-in number and pass-code.

Forms must be submitted by the second Tuesday of the month to be considered at that month's TCWG meeting.

REFERENCE

Criteria for Projects of Air Quality Concern (40 CFR 93.123(b)(1)) – PM_{10} and $PM_{2.5}$ Hot Spots

(i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;

(ii) Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

(iii) New bus and rail terminals and transfer points than have a significant number of diesel vehicles congregating at a single location;

(iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and

(v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM10 or PM2.5 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Links to more information:

http://www.fhwa.dot.gov/environment/conform.htm

http://www.epa.gov/otaq/stateresources/transconf/index.htm

TABLE 1
Type of Project

- New state highway
- Change to existing state highway
- New regionally significant street
- Change to existing regionally significant street
- New interchange
- Reconfigure existing interchange
- Intersection channelization
- Intersection signalization
- Roadway realignment
- Bus, rail, or inter-modal facility/terminal/transfer point
- Truck weight/inspection station
- At or affects location identified in the SIP as a site of actual or possible violation of NAAQS

RTIP ID# *(required)* ORA120326

Project Description:

Two interchange improvement alternatives have been proposed to meet the project purpose and need. In addition, a no build alternative is under consideration. All three alternatives are evaluated in this Environmental Impact Report/Environmental Assessment (EIR/EA). The potential interchange improvement alternatives are as follows:

No Build Alternative: No changes to the existing roadway configuration are anticipated for the analysis of this alternative. Ortega Highway and the surrounding land uses in the interchange area would continue to exist and operate as they do today. Figure ES-3 displays the existing conditions associated with the No Build Alternative.

It is anticipated that I-5 may be widened in the future (as a separate project) by providing one additional HOV lane in each direction. The potential future widening of I-5 in the interchange area would occur independently if the No Build Alternative were selected. Currently, the Ortega Highway overcrossing over I-5 does not provide enough span length (horizontal clearance) to accommodate the future widening of I-5.

If the No Build Alternative is selected in lieu of one of the proposed build alternatives, the purpose and need for the project would not be achieved, and impacts related to increased traffic congestion, the inability of the interchange to accommodate projected year 2030 traffic levels, ongoing traffic safety issues, nonstandard design features, and air quality effects (because of increased traffic congestion) would be exacerbated in the project area. In addition, the Ortega Highway overcrossing over I-5 would exist as it is currently designed and would not provide the required span length to accommodate the future widening of I-5; therefore, the Ortega Highway overcrossing would ultimately need to be reconstructed as a separate project if the I-5 widening project is implemented.

Alternative 3 (Locally-Preferred Alternative) – Reconfigured Del Obispo Street Intersection and Single Cloverleaf Interchange: This alternative realigns Ortega Highway west of the I-5 southbound ramps and widens the I-5 southbound off-ramp (refer to Figure ES-4). Proposed improvements would realign Del Obispo Street and Ortega Highway so that the eastern branch of Ortega Highway curves into Del Obispo Street, which would form a new intersection south of the existing intersection. A new curved roadway would also be constructed, which would connect the current El Camino Real/Ortega Highway intersection with this new intersection. In addition, Ortega Highway would be widened and restriped east of the proposed northbound I-5 freeway ramps to accommodate the eastbound and westbound through/turn lanes and to allow for lane widening to standard widths.

The east side of the interchange would feature a partial cloverleaf ramp configuration. The current I-5 northbound off-ramp would be realigned to the east to provide room for a loop ramp in the southeast quadrant of the interchange. This loop ramp would be used for eastbound traffic to access northbound I-5 without having to make a left turn onto the current northbound on-ramp, which would be retained for westbound traffic turning right. The current intersection would be simplified by the removal of this left-turn movement, and it would be moved east, which would increase the spacing between it and the intersection of Ortega Highway and the southbound I-5 ramps. In addition, the northbound on-ramp would be modified to accommodate an acceleration lane for the proposed loop on-ramp. A retaining wall would be placed along the outside of the reconfigured northbound off-ramp to minimize right-of-way (ROW) impacts on the adjacent business park.

The Ortega Highway/I-5 freeway overcrossing would be replaced to allow for additional full-width standard[1] lanes (8 total) as well as a longer span length to provide additional space underneath to accommodate the proposed northbound loop on-ramp and for possible future widening of the I-5 freeway. The increased span length would result in a deeper bridge section, thus requiring the bridge profile to be raised to maintain the minimum required vertical clearance.

It is anticipated that the I-5 freeway may be widened in the future (as a separate project) by providing one additional high-occupancy vehicle (HOV) lane in each direction. Alternative 3 has been designed to accommodate this future widening. The cloverleaf on-ramp proposed as part of Alternative 3 was designed such that a reduction of the ramp radius would not be required to provide room for the additional I-5 HOV lanes. In the event that the I-5 freeway is widened in the future, the acceleration lane for the proposed loop on-ramp may be revised to accommodate the future freeway HOV lanes while still meeting minimum radius standards for the loop portion of the ramp. Similarly, the proposed northbound on-ramp would require minimal modification to accommodate additional I-5 freeway HOV lanes.

After comparing and weighing the benefits and impacts of all of the feasible alternatives, the project development team has identified Alternative 3 as the "Locally-Preferred Alternative," subject to public review. Alternative 3 has been identified as the Locally-Preferred Alternative because of its smaller direct impact footprint and associated smaller amount of property acquisition required for ROW, as compared to Alternative 5. Furthermore, Alternative 3 would not require property acquisition and relocations of buildings on the San Juan Elementary School site, which

[1] *Full-width standard* is defined as a 12' lane.

would provide a lower project cost associated with property acquisition and avoid temporary inconveniences to the school during the construction period that would result from relocation and reconstruction of the school buildings.

Alternative 5 – Double Cloverleaf Interchange: Alternative 5 provides a double cloverleaf design with dual-lane loop on-ramps located in the northwest and southeast quadrants of the interchange (refer to Figure ES-5). The southbound and northbound off-ramps would be realigned to terminate at the intersections of Del Obispo Street and Los Cerritos Avenue, respectively. Del Obispo Street would be widened and realigned to meet the new southbound off-ramp configuration. Furthermore, Ortega Highway would be widened and/or restriped to accommodate the additional eastbound and westbound through/turn lanes and to allow for lane widening to standard widths.

The current southbound freeway on-ramp would be maintained at its current location for traffic making right turns from eastbound Ortega Highway to the I-5 freeway. Similarly, the current northbound on-ramp would be maintained for traffic making right turns from westbound Ortega Highway to the I-5 freeway; however, the northbound on-ramp would be modified to accommodate construction of the northbound loop on-ramp, as previously discussed under Alternative 3.

To minimize ROW impacts, retaining walls would be placed along the outside of the proposed southbound and northbound off-ramps. A portion of the existing 16-ft soundwall that currently protects portions of the San Juan Elementary School buildings, playground, and baseball fields would remain in place, but a portion of the barrier must be removed and replaced to accommodate the new I-5 southbound ramp configuration. The portion of the existing 16-ft wall to remain in place is located between Stations 532+00 and 538+25. South of Station 538+25, a new 10-ft soundwall is proposed to be constructed along the ramp shoulder to Ortega Highway at Station 518+60. The new 10-ft soundwall along the ramp shoulder would also shield the line of sight from heavy-duty truck exhaust stacks. To be effective, the new soundwall would be designed to connect to, or overlap, the existing soundwall at this location.

If it is determined that conditions have substantially changed during the future final design phase of the project, there is a possibility that the proposed new soundwall could be determined to be infeasible, unreasonable (not cost-effective), or ineffective to achieve the desired level of noise reduction. The final decision regarding the soundwall will be made during the project design phase and after the public involvement process.

It is anticipated that the I-5 freeway may be widened in the future (as a separate project) by providing one additional HOV lane in each direction. Alternative 5 has been designed to accommodate this future widening. Similar to Alternative 3, Alternative 5 would replace the Ortega Highway/I-5 freeway overcrossing to allow for additional lanes and full-width (12-ft) standards, as well as to provide additional span length for the possible future widening of the I-5 freeway. The bridge span and cloverleaf on-ramps were designed such that ramp acceleration lanes could be moved to provide room for additional I-5 lanes while still meeting minimum radii standards for the loop portion of the ramp. The increased bridge span length would result in a deeper bridge section, thus requiring the bridge profile to be raised to maintain the minimum required vertical clearance.

Type of Project *(use Table 1 on instruction sheet)*
Reconfigure existing interchange.

County	**Narrative Location/Route & Postmiles :** Interstate 5 at State Route 74 (Ortega Highway) from Post Mile 9.36/9.88 at Post Mile 0.0/0.20 **Caltrans Projects – EA#** 0E3100

Lead Agency: California Department of Transportation District 12

Contact Person	**Phone#**	**Fax#**	**Email**
Smita Deshpande	(949) 724-2245	(949) 724-2256	Smita_Deshpande@dot.ca.gov

Hot Spot Pollutant of Concern *(check one or both)* **PM2.5** **PM10**

Federal Action for which Project-Level PM Conformity is Needed *(check appropriate box)*

Categorical Exclusion (NEPA)	X **EA or Draft EIS**	**FONSI or Final EIS**	**PS&E or Construction**	**Other**

Scheduled Date of Federal Action: May 2008

Current Programming Dates *as appropriate*				
	PE/Environmental	**ENG**	**ROW**	**CON**
Start	October 2005	June 2008	December 2008	May 2010
End	June 2008	September 2009	June 2010	May 2012

Project Purpose and Need (Summary): (attach additional sheets as necessary)

Ortega Highway at the I-5 interchange has been identified by the Department and the Orange County Transportation Authority (OCTA) as a "Choke Point" where substantial delay and congestion occur, necessitating improvement to alleviate the problem. The existing I-5 / Ortega Highway interchange currently experiences congestion during the morning and afternoon peak periods, resulting in unacceptable level-of-service (LOS) E and F conditions. Without any improvements, the interchange will experience worse congestion, which would further degrade traffic operations at the interchange. Improvements to the I-5 / Ortega Highway interchange are necessary to alleviate both existing and future traffic congestion and delays within the interchange.

The purpose of the proposed project is:

- To provide congestion relief in order to improve traffic flow on the local and regional transportation system.
- To provide capacity for existing and projected traffic using the interchange.
- To improve traffic safety and operations at the I-5/Ortega Highway interchange.
- To eliminate existing geometric
- To transfer through-vehicle trips to the regional highway system.
- To be consistent with existing and planned local development.
- To help achieve the objectives of the SCAG Regional Transportation Plan and the San Juan Capistrano Strategic Transportation Plan.

Need for the Project

Specific information about the existing deficiencies of the I-5/Ortega Highway interchange and associated need for the project is described below under the following subheadings:

Capacity, Transportation Demand, and Safety

- The proposed project is needed to improve the I-5 / Ortega Highway interchange to alleviate both existing and future traffic congestion and delays within the interchange.
- The current configuration of the interchange does not have the capacity to carry projected traffic volumes. Currently 99,000 vpd travel through the I-5 / Ortega Highway interchange. With the existing and projected future development to the east of the project area, year 2030 traffic at the I-5 / Ortega Highway interchange is projected to reach approximately 121,000 vpd.
- Sections of Ortega Highway within the interchange area currently operate at unacceptable LOS E and F conditions. If the current configuration of the interchange were to remain, traffic congestion would increase and levels of service would further degrade.
- Accidents along Ortega Highway within the project limits occur at a rate three times higher than the state average of similar facilities.
- Without any improvements, the interchange will experience more congestion and further degradation of traffic operations and safety.

Roadway Deficiencies

- The existing lane widths along Ortega Highway in the interchange area are a nonstandard 10-ft and 11-ft. The Caltrans Highway Design Manual (HDM) Index 301.1 requires 12-ft lane widths.

- Shoulders currently do not exist along Ortega Highway in the interchange area. The HDM Index 302.1 requires 8-ft shoulders for a bridge separation.
- The existing I-5 ramp shoulder widths in the interchange area are nonstandard. The HDM Index 302.1 requires 8-ft right shoulders and 4-ft left shoulders.

Modal Interrelationships and System Linkages

- Regional and System Planning: The I-5 / Ortega Highway interchange has regional importance. The proposed project is needed to accommodate the increase traffic volume using the interchange due to the significant land use development in the area.
- State Planning: The year 2005 Route Concept Report (RCR) recommendation for Ortega Highway is a 4-lane conventional highway from I-5 to the proposed Foothill Transportation Corridor (SR-241), with passing lanes provided where feasible from SR-241 eastward to the county line. The RCR recommendations are consistent with the 2002 Orange County Master Plan of Arterial Highways (MPAH), which proposes Ortega Highway as a primary roadway consisting of a 4-lane divided highway. In addition to the above recommendation, the RCR also recommends improvements to increase the capacity of the I-5 / Ortega Highway interchange to accommodate the anticipated growth in south Orange County as well as Riverside County. Therefore, the proposed project is needed to implement the recommendations of the RCR concept for Ortega Highway.
- Regional Planning: According to the April 2000 I-5 RCR, the ultimate (2020 Concept) transportation corridor (UTC) for I-5 is an eight lane freeway with two HOV lanes south of Ortega Highway and a ten lane freeway with two HOV lanes north of Ortega Highway. However, in discussion with Caltrans, the potential future widening of the I-5 freeway would consist of providing one additional high-occupancy vehicle (HOV) lane in each direction. In reference to the Ortega Highway interchange, the RCR lists the addition of auxiliary lanes to I-5 south of the interchange from the southbound on-ramp and northbound off-ramp as part of its 2020 concept. The proposed I-5 / Ortega Highway Project is intended to accommodate these future design considerations for the future I-5 widening.
- Local Planning: The proposed project is needed to implement the objectives of the 2002 San Juan Capistrano Strategic Transportation Plan, which recommends reconstruction of the I-5 / Ortega Highway interchange. The levels of service at both intersections of the I-5 ramps and Ortega Highway are projected to significantly degrade in the future without improvements to the interchange.

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*

The existing I-5 / Ortega Highway interchange is located in an urbanized area of the City, just east of its downtown area, and provides the primary entrance to the City. The area surrounding the interchange is densely populated with commercial, retail, hotel, and community facility uses.

Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

Year 2006 (Current year) volumes, percent of heavy trucks, and volume of heavy trucks are presented in Table 1 below. The Percentages are representative of both project alternatives.

Table 1: 2006 Truck Volumes on Roadway Segments (I-5/SR-74 Interchange Area)

Roadway Segment	Current Year (2006) Existing Conditions		
	ADT	%Heavy Trucks	#Heavy Trucks
I-5 Mainline at PM 9.604 (SR-74)	234,000	1.96	4,579
Ortega Highway (West project limit to Del Obispo Street)	14,200	0.7	99
Ortega Highway (Del Obispo Street to I-5 SB Ramps)	40,400	0.7	289
I-5 Southbound Off-Ramp	20,400	7.1	1,454
I-5 Southbound On-Ramp	7,900	4.9	387
I-5 Northbound Off-Ramp	11,300	5.5	624
Ortega Highway (I-5 NB Ramp to East Project Limit)	46,000	6.3	2,887
I-5 Northbound On-Ramp	19,200	4.0	768

RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

Year 2030 (Horizon year) volumes, percent of heavy trucks, and volume of heavy trucks are presented in Table 2 below.

Table 2: Projected 2030 Truck Volumes on Roadway Segments (I-5/SR 74 Interchange Area)

Roadway Segment	Projected Year (2030) No Build and Build Conditions		
	ADT	%Heavy Trucks	#Heavy Trucks
I-5 Mainline at PM 9.604 (SR-74)	283,140	1.96	5,541
Ortega Highway (West project limit to Del Obispo Street)	15,500	0.9	140
Ortega Highway (Del Obispo Street to I-5 SB Ramps)	43,000	0.9	397
I-5 Southbound Off-Ramp	28,200	7.1	2,001
I-5 Southbound On-Ramp	9,400	5.7	532
I-5 Northbound Off-Ramp	14,000	6.1	858
Ortega Highway (I-5 NB Ramp to East Project Limit)	53,000	7.5	3,970
I-5 Northbound On-Ramp	26,300	3.7	977

Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT: Opening Year: 2030

Roadway Segment	Projected Year (2030) No Build and Build Conditions		
	ADT	%Heavy Trucks	#Heavy Trucks
I-5 Mainline at PM 9.604 (SR-74)	283,140	1.96	5,541
Ortega Highway (West project limit to Del Obispo Street)	15,500	0.9	140
Ortega Highway (Del Obispo Street to I-5 SB Ramps)	43,000	0.9	397
I-5 Southbound Off-Ramp	28,200	7.1	2,001
I-5 Southbound On-Ramp	9,400	5.7	532
I-5 Northbound Off-Ramp	14,000	6.1	858
Ortega Highway (I-5 NB Ramp to East Project Limit)	53,000	7.5	3,970
I-5 Northbound On-Ramp	26,300	3.7	977

RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT: Horizon Year: 2030

Roadway Segment	Projected Year (2030) No Build and Build Conditions		
	ADT	%Heavy Trucks	#Heavy Trucks
I-5 Mainline at PM 9.604 (SR-74)	283,140	1.96	5,541
Ortega Highway (West project limit to Del Obispo Street)	15,500	0.9	140
Ortega Highway (Del Obispo Street to I-5 SB Ramps)	43,000	0.9	397
I-5 Southbound Off-Ramp	28,200	7.1	2,001
I-5 Southbound On-Ramp	9,400	5.7	532
I-5 Northbound Off-Ramp	14,000	6.1	858
Ortega Highway (I-5 NB Ramp to East Project Limit)	53,000	7.5	3,970
I-5 Northbound On-Ramp	26,300	3.7	977

Describe potential traffic redistribution effects of congestion relief *(impact on other facilities)*

Some traffic delays can be expected during construction of the project. However, the traffic impacts during construction are only temporary in nature and will cease upon completion of construction activities.

During the operation phase, the proposed project would result in the modification of the existing I-5/ Ortega Highway (SR 74) Interchange. These modifications would not redistribute traffic but would relieve traffic backup at the project interchange thus improving traffic LOS in the area.

Comments/Explanation/Details *(attach additional sheets as necessary)*
Conformity determinations require the analysis of direct and indirect emissions associated with the proposed project in comparison to the no project condition. If the total of direct and indirect emissions from the project reaches or exceeds regionally significant thresholds, the Lead Agency must perform a conformity determination to demonstrate the positive conformity of the federal action.

The proposed project is identified in the "Orange County State Highway" project listing of the federally approved 2006 RTIP as "ORA120326". The 2006 RTIP was approved on October 2, 2006, and it was found to conform to all of the requirements. The project is listed in the 2006 RTIP under the conformity category "nonexempt," meaning that it is nonexempt from conformity requirements. The proposed project has been modeled, and it has been included in the 2006 RTIP with **Model Number O341** and Project Description:

"OCTA-AT I-5 AND SR-74/ORTEGA HWY-REBUILD INTERCHANGE INCLUDING WIDENING OF SR-74 OVERCROSSING."

Given that the proposed project is consistent with the 2004 RTP and included in the adopted 2006 RTIP, it would not interfere with the timely implementation of all Transportation Control Measures (TCMs) identified in the currently approved SIP.

Since the project is included within SCAG'S RTP as a State Highway Project the current Code of Federal Regulations (40 CFR 93.126) stipulates that a conformity determination with Sate or Federal Implementation Plans (SIP or FIP) must be made for a project that involves federal funding. The project is included in the RTIP, and conformity and associated analysis is part of the Federal Transportation Improvement Program (FTIP) approval process.

The I-5/Ortega Highway Interchange has been identified by the Department and the Orange County Transportation Authority (OCTA) as a "Choke Point" where substantial delay and congestion occur, necessitating improvement to alleviate the problem. The existing I-5 / Ortega Highway interchange currently experiences congestion during the morning and afternoon peak periods, resulting in unacceptable level-of-service (LOS) E and F conditions. Without any improvements, the interchange will experience worse congestion, which would further degrade traffic operations at the interchange. Improvements to the I-5 / Ortega Highway interchange are necessary to alleviate both existing and future traffic congestion and delays within the interchange.

Based up on the information provided above, the project is not expected to introduce significant amounts of diesel truck traffic and would not generate additional diesel truck traffic above levels anticipated without implementation of the project. Therefore, the project is not considered a project of significant concern per the definition contained within 40 CFR 93.1.126(b)(1).